



Torrington Sandstone

Technical Data Sheet

Torrington Sandstone

Beam Quarry

Beam Quarry, Torrington, Devon, EX32 8JF

Contact : Torrington Stone Ltd

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Grid reference : -- --

Compiled May 2000

This data sheet was compiled by the Building Research Establishment (BRE). It is based on data from current tests at BRE (2000). The data sheet was compiled in May 2000. The work was carried out by BRE as part of a Partners in Technology Programme funded by the Department of the Environment, Transport and the Regions and Torrington Stone Ltd. and does not represent an endorsement of the stone by BRE.

General

Beam quarry is near Barnstaple, Devon. The quarry consists of a 50m high face with shale and sandstone inter-layered. Material is brought down off the face using an excavator. Suitable sandstone blocks 0.5 x 0.5 x 1 m or smaller (0.1 m on bed) are sorted during the screening process for packaging as blocks for walling. The remainder of the material is crushed for aggregate production which forms the major output from the quarry. There are large reserves of material. The blocks are extremely hard to saw and work.

Petrography

Torrington sandstone is a dark grey, non-calcareous very fine grained sandstone/ siltstone from the Bude formation, Carboniferous sandstone series.

Expected Durability and Performance

It is important that the results from the individual tests are not viewed in isolation. They should be considered together and compared to the performance of the stone in existing buildings and other uses. Sandstone is traditionally acknowledged as generally being a very durable building and paving stone and has been used extensively in many towns and cities in the UK. Torrington sandstone appears to be a durable stone that will have good resistance to acid rain or air pollution. In addition, the small weight loss in the sodium sulphate crystallisation test indicates good resistance to salt damage (for example in coastal locations or from de-icing salts). The high density and low porosity suggest a high frost resistance. The compressive strength of the stone is very high in comparison with many other sandstones.

Overall, Torrington sandstone should be suitable for use in some aspects of construction including load bearing masonry and cladding. The size and

workability preclude the stone from some uses. The stone is suitable for areas where a long service life is needed. The stone is used for walling, window or door surrounds.

Test Results – “Tenyard” Hard Yorkstone

Safety in Use		
Slip Resistance ^(Note 1)	Not tested	Values > 40 are considered safe.
Abrasion Resistance ^(Note 1)	Not tested	Values <23.0 are considered suitable for use in heavily trafficked areas
Strength under load		
1) Compression ^(Note 2)	248.8 MPa	Loaded perpendicular to the bedding plane ambient humidity
2) Bending ^(Note 1)	Not tested	Loaded perpendicular to the bedding plane ambient humidity

	Not tested	Loaded parallel to the bedding plane ambient humidity
Porosity and Water Absorption		
1) Porosity ^(Note 3)	1.8%	
2) Saturation Coefficient ^(Note 3)	1.04	
3) Water Absorption	0.7% (by wt)	
4) Bulk specific gravity	2679kg/m ³	
Resistance to Frost		
Flexural strength after Freeze/Thaw Test ^(Note 1)	Not tested	Loaded perpendicular to the bedding ambient humidity
Resistance to Salt		
Sodium Sulphate Crystallisation Test ^(Note 3)	0.18% Mean wt loss	

Resistance to Acidity		
Acid Immersion Test ^(Note 4)	Pass	

(Test methods Note 1 = EN1341, Note 2 = EN 1342, Note 3 = EN 1341 /BRE 141, Note 4 = BRE 141)

Tests were carried out at BRE in 2000